Practice Question Set For GCSE
Subject : Physics
Paper-2 Topic: Forces (High Demand Questions)

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Name of the Student:_____
Max. Marks : 22 Marks **Time : 22 Minutes**

Mark Schemes

Q1.

(a) arrow of equal size pointing vertically downwards
judged by eye
1

labelled 'weight'
1

(b) the upwards force is greater than the downwards force
1

because air resistance increases
1

(c) $v^2 = (2 \times 2 \times 209) + 8^2$
1

$v = \sqrt{900}$
1

v = 30 (m / s)
1

*allow 30 (m / s) without working shown for **3** calculation marks*

(d) vertical force (300 N) drawn with a suitable scale
1

horizontal force (60 N) drawn to the same scale
1

resultant force drawn in correct direction
1

value of resultant in the range 304 N – 308 N
1

[12]

Q2.

(a) elastic potential
1

(b) (i) line is straight
accept line does not curve
1

(ii) 400

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*allow **1** mark for correct substitution of any pair of numbers correctly taken from the graph e.g.160 = k × 0.40*

2

newtons per metre **or** N/m

if symbols are used they must be correct

1

(iii) 300

*allow **1** mark for correctly obtaining force on 1 spring = 100N*

2

(c) 52

*allow **2** marks for calculating change in gpe for 1 chin-up as 260 (J) or for 12 chin-ups as 3120 (J)*

*an answer 4.3 gains **2** marks*

*allow **1** mark for correct substitution into gpe equation ie gpe = 65 × 10 × 0.4 (× 12)*

or

correct use of power equation with an incorrect value for energy transferred

3

[10]

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